IAEMSC
Policy Statement
Prehospital Administration of Blood and Blood Products
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The International Association of EMS Chiefs (IAEMSC) endorses prehospital blood product transfusion by paramedics to treat acute hemorrhagic shock. Modern EMS was created in the 1960s to address deaths and disability from trauma. In a rapidly evolving and highly dynamic field such as EMS, it is critical to continuously explore new methods and adopt innovative practices to enhance the standard of care and improve patient outcomes. One such practice that has garnered attention in recent years is the use of blood and plasma for the resuscitation of major trauma patients in the out-of-hospital environments. Several research studies have highlighted the potential benefits of this approach, underscoring its potential to improve the survival rate and reduce the risk of in-hospital complications associated with major trauma. Prehospital paramedic blood transfusion programs are now critical to improving the immediate medical response to severe injury resulting in blood loss in America. The IAEMSC calls on EMS services; medical directors; EMS regulatory agencies; healthcare systems; trauma systems; blood-banks; and all Americans to support the rapid, reasonable, and regional implementation of prehospital paramedic blood product transfusion programs in the United States.

Gun violence and motor vehicle injuries remain the leading avoidable causes of death for Americans. According to the American College of Surgeons (ACS), trauma is the leading cause of death for individuals under the age of 45, and hemorrhage is a significant contributor to mortality in these cases. Pre-hospital resuscitation with blood or plasma holds the potential to change the calculus for resuscitation in the field by EMS, given the fact that the "golden period" is often a decisive factor in patient survival. When major trauma results in severe blood loss, using crystalloid fluids like saline for initial resuscitation may be doing more harm than good. When used to excess traditional crystalloid infusions contribute to exacerbating the trauma triad of death by blowing out clots, diluting clotting factors, and diluting the oxygen-carrying capacity of the blood. The rationale for using blood and plasma lies in their capacity to perform vital functions that crystalloids cannot: carrying oxygen, ensuring coagulation, and maintaining the osmotic balance.

Modern blood product transfusion has been the standard of care therapy for replacing acute blood loss resulting in clinically-significant hypoperfusion for almost 100 years.

The technological barriers to the widespread civilian implementation of prehospital blood product transfusion have been overcome, and the logistical barriers have also been removed in

systems that have the will to implement. Areas and communities without prehospital blood transfusion capability must move towards achieving this capability to ensure their systems are meeting the standard of care.

Prehospital blood transfusion is the straightforward, standard of care therapy for severe blood loss. The earliest possible replacement of lost blood with blood in serious hemorrhage is the obvious and irrefutable priority for EMS in saving lives and improving outcomes from hemorrhagic shock from trauma or other acute causes.

The ability of paramedics to safely, rapidly, effectively, and independently, without on-scene physician oversight or involvement, administer blood products via transfusion has been definitively proven through prehospital military experience and numerous successful EMS transfusion programs in multiple civilian EMS paramedic systems. In the past year, the US Fire Administration within FEMA has publicly acknowledged that the evidence suggests that prehospital blood transfusion by civilian paramedics in the United States improves survival and outcomes from hemorrhagic shock.

Considering the overwhelming need and evidence for prehospital blood product transfusion by paramedics to save thousands of lives and improve outcomes for patients suffering from life-threatening hemorrhagic shock, the IAEMSC joins the American College of Surgeons, American College of Emergency Physicians, and National Association of EMS Physicians in endorsing prehospital blood product transfusion programs by paramedics in accordance with current and emerging best evidence-based practices. Further, IAEMSC encourages close involvement of EMS leaders and providers with trauma surgeons, blood banks, and EMS service physician medical advisors in accelerating the development standardization and implementation of protocols and procedures to rapidly deliver blood product transfusion to patients at the scene (e.g., entrapment) and enroute to definitive care, most often a trauma center.

Prehospital blood product transfusion by paramedics is the standard of care therapy for hemorrhagic shock, and its widespread, systematic adoption must now be a national and state priority for every EMS system. Civilian EMS systems must move to rapidly implement and operationalize regional prehospital blood transfusion programs, following the examples of EMS programs in North Carolina, the State of Delaware, the Texas Department of Public Safety, Harris County, and Austin, Texas. This aligns with multiple nationwide federal initiatives such as transportation infrastructure and safety, homeland security, and health care access and equity. Prehospital blood product therapy for hemorrhagic shock directly supports the federal Department of Transportation (DOT) national highway traffic safety administration (NHTSA) strategic policy and funding for Post-Crash Care as a key component toward eliminating preventable deaths from motor vehicle collisions. Prehospital blood administration supports the federal Department of Homeland Security (DHS) policy and funding priorities and requirements

to protect from and respond to terrorism, catastrophic incidents, violent domestic extremism, soft targets and crowded places, emerging threats, and enduring needs, including active shooter incidents, and chemical, biological, radiological, nuclear, and explosive (CBRNE) incidents. Prehospital blood transfusion capability also provides force protection and enhanced survivability and resiliency for federal, state, local, tribal, territorial, and campus (SLTT-C) on-scene law enforcement, fire-rescue, EMS, and high-threat specialty team (e.g., SWAT, K9, EOD, USAR, CBRNE, et al.) first responders responding to major and complex emergencies and protecting large venues and major events, including SEAR rated events.

The IAEMSC firmly believes that the provision of prehospital blood transfusion should be prioritized at both the national and regional levels across various sectors, including health care, transportation, public safety, and homeland security. Acknowledging the profound impact it can have on patient outcomes, it is posited that such a service can contribute significantly to saving lives, minimizing disability, curtailing healthcare costs, and optimizing resource utilization.

Furthermore, the IAEMSC strongly advocates that patient access to prehospital blood transfusion in managing hemorrhagic shock should be recognized as a fundamental patient right. This should be within the feasible, region-specific capabilities of EMS systems within any given state or territory. This is based on the principle of equal access to life-saving interventions, which is embedded in international human rights norms and health policies (WHO, 2020). Moreover, the IAEMSC supports the delivery of these vital services by both air and ground-based EMS paramedic services while noting that in densely populated urban and suburban areas, ground-based services typically provide the most immediate on-scene response. To best serve the public health needs of the populations served, IAEMSC encourages the adoption of local, interlocal, and regional delivery models for prehospital blood transfusion.

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